

WHAT IS CLAIMED IS:

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1. A portable computer system which includes a main body, a power supplying unit, and a liquid crystal display (LCD) apparatus having an LCD panel which is operated by electric power supplied by the power supplying unit and a back light which illuminates the LCD panel, said system further comprising:

a direct current to alternating current (DC/AC) inverter for supplying AC power to the back light;

a contrast sensing part for sensing contrast of a video signal displayed on the LCD panel and outputting a pulse width modulation (PWM) signal;

a DC converter for converting the PWM signal from the contrast sensing part into a DC signal;

a voltage controller provided between the DC converter and the DC/AC inverter for providing the DC signal from the DC converter as an operating voltage of the DC/AC inverter; and

a controller connected in series with the DC/AC inverter for sensing the operating voltage of the DC/AC inverter, and for controlling the voltage controller on the basis of the operating voltage of the DC/AC inverter.

2. The portable computer system according to claim 1, wherein the controller is directly connected to the DC/AC inverter, and the contrast sensing part is connected to the DC/AC inverter via the DC converter and the voltage controller.

1 3. The portable computer system according to claim 1, further comprising a back light
2 manual selection part operable for suspending a back light automatic control function, and wherein
3 the controller turns off the voltage controller when the back light manual selection part is operated
4 to suspend the back light automatic control function.

1 4. The portable computer system according to claim 3, wherein the back light manual
2 selection part is included in a keyboard unit provided in the main body.

3 5. A method of controlling a portable computer system which includes a main body to which
4 a power supplying unit is connected, and an LCD apparatus having an LCD panel operated by
5 electric power supplied by the power supplying unit, a back light for illuminating the LCD panel,
6 and a contrast sensing part, said method comprising the steps of:

7 sensing an operating voltage of a DC/AC inverter supplying an AC voltage to the back light,
8 and

9 converting a back light control signal, outputted from the contrast sensing part, into a DC
10 signal, and controlling the DC signal to have an intensity for operating the DC/AC inverter so as to
11 supply a DC operating voltage to the DC/AC inverter.

1 6. The method according to claim 5, further comprising the steps of:

2 selecting a back light manual control function; and

3 suspending a back light automatic control function so as to allow a user to manually control
4 the back light when the back light manual control function is selected.

1 7. The method according to claim 6, further comprising the step, prior to the sensing step,
2 of determining whether the contrast sensing part is provided, and suspending the back light
3 automatic control function so as to allow the user to manually control the back light when the
4 contrast sensing part is not provided.

5 8. The method according to claim 7, wherein the back light automatic control function is
6 carried out based on sensing, by the contrast sensing part, of a contrast of a video signal, displayed
7 on the LCD panel.

8 9. The method according to claim 6, wherein the back light automatic control function is
9 carried out based on sensing, by the contrast sensing part, of a contrast of a video signal displayed
10 on the LCD panel.

1 10. The method according to claim 5, further comprising the step, prior to the sensing step,
2 of determining whether the contrast sensing part is provided, and suspending a back light automatic
3 control function so as to allow the user to manually control the back light when the contrast sensing
4 part is not provided.

1 11. The method according to claim 10, wherein the back light automatic control function is
2 carried out based on sensing, by the contrast sensing part, of a contrast of a video signal displayed
3 on the LCD panel.

1 12. The method according to claim 5, wherein the back light automatic control function is
2 carried out based on sensing, by the contrast sensing part, of a contrast of a video signal displayed
3 on the LCD panel.

13. A portable computer system having a liquid crystal display (LCD) and a back light
illuminating the LCD panel, said system further comprising:

direct current to alternating current (DC/AC) inverter means for supplying AC power to the
back light;

contrast sensing means for sensing a contrast of a video signal displayed on the LCD panel
and outputting a pulse width modulation (PWM) signal;

DC converter means for converting the PWM signal outputted by the contrast sensing means
into a DC signal; and

voltage controller means disposed between the DC converter means and the DC/AC inverter
means for controlling the DC signal from the DC converter means so that it has an intensity of an
operating voltage for the DC/AC inverter means, and for supplying the controlled DC signal to the
DC/AC inverter means.

1 14. The portable computer system according to claim 13, further comprising controller
2 means connected to the DC/AC inverter means for sensing the operating voltage of the DC/AC
3 inverter means, and for controlling the voltage controller means on the basis of the sensed operating
4 voltage.

1 15. The portable computer system according to claim 14, wherein the controller means is
2 directly connected to the DC/AC inverter means, and the contrast sensing means is connected to the
3 DC/AC inverter means via the DC converter means and the voltage controller means.

1 16. The portable computer system according to claim 14, further comprising back light
2 selection means operable by a user for selecting manual control of the back light and for suspending
3 automatic control of the back light.

1 17. The portable computer system according to claim 16, wherein the back light selection
2 means comprises a keyboard unit of the portable computer system.

1 18. The portable computer system according to claim 16, wherein the controller means turns
2 off the voltage controller means when the user operates the back light selection means to select the
3 manual control of the back light.

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